(19) World Intellectual Property **Organization**

International Bureau



(43) International Publication Date 21 July 2005 (21.07.2005)

(10) International Publication Number WO 2005/065806 A1

(51) International Patent Classification⁷: B01D 71/02, 53/22, C01B 3/50

(21) International Application Number:

PCT/GB2005/000041

(22) International Filing Date: 7 January 2005 (07.01.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 200410021025.6 9 January 2004 (09.01.2004) CN ·

(71) Applicants (for all designated States except US): BP P.L.C. [GB/GB]; 1 St James's Square, London SW1Y 4PD (GB). DALIAN INSTITUTE OF CHEMICAL PHYSICS [CN/CN]; Chinese Academy of Sciences, 457 Zhongshan Road, Dalian 116023 (CN).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HOU, Shoufu

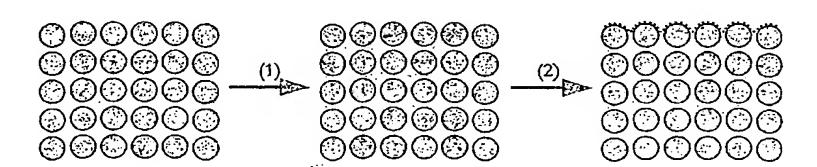
[CN/CN]; Room 1-202, Building 37, Xinhai 3rd Street, Shahekou District, Dalian 116023 (CN). JIANG, Kui [CN/CN]; Room 3-201, Building 47, Lingxiu Road, Ganjingzi District, Dalian 116023 (CN). LI, Wenzhao [CN/CN]; Room 4-301, Building 82, Yangshu South Street, shahekou District, Dalian 116023 (CN). XU, Hengyong [CN/CN]; Room 1-601, Building 45, Xinhai 3rd Street, Shahekou District, Dalian 116023 (CN). YUAN, Lixiang [CN/CN]; Room 1020, Building 59, Xinghai 3rd Street, Shahekou District, Dalian 116023 (CN).

(74) Agent: DE KEZEL, Eric; BP International Limited, Chertsey Road, Sunbury-on-Thames, Middlesex TW16 7LN (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,

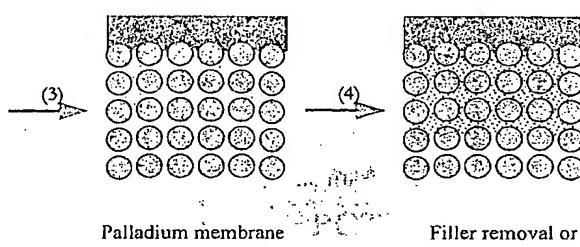
[Continued on next page]

(54) Title: A METAL PALLADIUM COMPOSITE MEMBRANE OR ALLOY PALLADIUM COMPOSITE MEMBRANE AND THEIR PREPARATION METHODS



Porous Al₂O₃ support

Filler inside the channels of support Palladium nuclei formation



`.'.

formation -

partly removal

908590/500 (57) Abstract: The present invention relates to a metal palladium composite membrane or an alloy palladium composite membrane in which essentially the metal palladium membrane or alloy palladium membrane exists substantially on the outer surface of the porous substrate support, with little or no presence in the pore channels of the support, and to process for its preparation. The process comprises the steps of treating the porous substrate with a pore filler before plating it with a palladium solution to form the composite membrane.



WO 2005/065806 A1



TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, ÉE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.